

Date: Sat, 21 May 94 04:30:21 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #136
To: Ham-Homebrew

Ham-Homebrew Digest Sat, 21 May 94 Volume 94 : Issue 136

Today's Topics:

 Amidon Cores (2 msgs)
 HELP! Need 'advice' on transmitter construction.
 Man named Loomis invented radio?
 Philips "Dream Machine" 8XC750 design contest
 Propagation E-Sporadic
 Repeater linking, what radios? (2 msgs)
 Reply to Allen Hall

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>

Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 20 May 94 12:26:17 GMT
From: yale.edu!noc.near.net!delphi.bc.edu!bcvms.bc.edu!boylanj@yale.arpa
Subject: Amidon Cores
To: ham-homebrew@ucsd.edu

I am looking for an Amidon torroidal core (#FT240-43, ref. ARRL Handbook
27-2, power supply project). Can anyone help me with an address for Amidon,
a distributor for these cores, or a substitute? Thanks in advance.

John Boylan
Boston College NMR Facility
boylanj@hermes.bc.edu

Date: Fri, 20 May 1994 14:09:03 GMT

From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!math.ohio-state.edu!
magnus.acs.ohio-state.edu!csn!yuma!galen@network.ucsd.edu
Subject: Amidon Cores
To: ham-homebrew@ucsd.edu

In article <1994May20.082617.1@bcvms.bc.edu> boylanj@bcvms.bc.edu writes:
>I am looking for an Amidon torroidal core (#FT240-43, ref. ARRL Handbook
>27-2, power supply project). Can anyone help me with an address for Amidon,
>a distributor for these cores, or a substitute? Thanks in advance.

Amidon Associates 310-763-5770
PO Box 956
Torrance, CA 90508

FT-240-43:
OD: 2.4 inches ID: 1.4 inches H: 0.5 inches

Material #43: AL value= 1240, u=850 Nickel-Zinc

Amidon will be more than happy to mail you a catalog that's more like a
torroid info sheet. They also take pla\$tic.
Galen, KF0YJ

Date: 20 May 94 14:31:40 GMT
From: agate!howland.reston.ans.net!EU.net!ieunet!tcdcs!news.tcd.ie!unix1.tcd.ie!
siwasaki@ucbvax.berkeley.edu
Subject: HELP! Need 'advice' on transmitter construction.
To: ham-homebrew@ucsd.edu

In <1994May19.190711.23607@ucl.ac.uk> zcap134@ucl.ac.uk (Redvers Llewellyn Davies)
writes:

>siwasaki@unix1.tcd.ie (Pleasure Death) writes:

>>Hi,

>>i just built a 2-transistor, .2 Watt transistor.
>>I can get pretty good range with it (approx 250 metres) with a 'bad'
>>set-up ,ie not covered, poor antenna.

>>I'm looking to build a bigger, more powerful model, and also make
>>an efficient antenna.

>>Can anyone give me any information on doing this?
>>Also can anyone reccomend any TEXTS are transmittor construction,
>>esp one with circuit diagrams.....

>What frequency?

FM 88 - 108 approx.

Si.

Date: 18 May 1994 04:58:28 GMT
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!usc!elroy.jpl.nasa.gov!
netline-fddi.jpl.nasa.gov!nntp-server.caltech.edu!mustang.mst6.lanl.gov!
newshost.lanl.gov!beta.lanl.gov!wolf@@
Subject: Man named Loomis invented radio?
To: ham-homebrew@ucsd.edu

In article <1994May17.145749.20098@kocrsv01.delcoelect.com>
c22jrb@kocrsv01.delcoelect.com (Jim Buchanan) writes:

>
>[...]
>
>Dr. Loomis was a dentist. If I remember correctly, he used a non-powered
>system where he simply connected his "transmitting" antennae to ground via
>a telegraph key. I assume that at all time a very small potential
>difference existed between the antennae and ground, when the key opened and
>closed, a small current flowed and excited the antennae at its resonant
>frequency. I'm not sure what he used as a detector, but it did work.

possibly the first case of the reception of rf by one's dental work ! :-))

david r. wolf - wb4vcq

Date: 18 May 94 17:47:10
From: cronkite.cisco.com!cronkite!billw@ames.arpa
Subject: Philips "Dream Machine" 8XC750 design contest
To: ham-homebrew@ucsd.edu

The 8XC750 is in the same class as a MicroChip PIC (like a 16C55)
except that it can run at 40Mhz, has a somewhat more complex
instruction set, and more i/o pins in the skinny DIP package.

Beware: Mhz are not directly comparable. Those "more complex instructions"
take a lot more cycles to execute as well. Most instructions take 12 clock
periods, and a fair number take 24. So a 12Mhz executes most instructions
in one microsecond, while a 20Mhz PIC executes most instructions in 200nS.

BillW

Date: 20 May 94 09:27:48 GMT
From: agate!howland.reston.ans.net!math.ohio-state.edu!jussieu.fr!univ-lyon1.fr!
swidir.switch.ch!epflnews!disuns2.epfl.ch!drossier@ucbvax.berkeley.edu
Subject: Propagation E-Sporadic
To: ham-homebrew@ucsd.edu

Could anybody tell me if it's possible to tranceive on the 2m band using the E-sporadic propagation. It seem's to be better with the SSB mode but I'm not sure that it's not possible to do it with a FM 2m Handy with 5watts (and perphaps also on 70cm band) ??

Where could I find some info about E-sporadic propag best time and country ?

Thanks for all..
73 de HB9UFT

D. Rossier

Date: 20 May 94 01:09:26 GMT
From: newsflash.concordia.ca!CC.UMontreal.CA!poly-vlsi!nick@uunet.uu.net
Subject: Repeater linking, what radios?
To: ham-homebrew@ucsd.edu

In article <1994May19.051640.533@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>
>Synthesized would be bad. You want crystal controlled receivers with
>at minimum TCXOs, and preferably ovens. Stability is critical, and
>the cleaner LO spectrum of the crystal rigs will also help reject
>other crud on the site. Watkins Johnson made some great shelf mount
>single channel receivers for this purpose, but you could press
>Micor or Exec II receiver strips into service. If you use the split

I agree! The GE Exec II's are the best receivers I have used not only for links, but also for 5 of my VHF repeaters. No amateur receiver that I have tried work as well as these Exec II's, and I have tried *alot*.

Nick

```

*****
*      Nick Ciarallo                                     *
*      SR Telecom Inc.          telephone: 514-335-2429   ex: 438      *
*      Microwave Group         facsimile: 514-334-7783     *
*      8150 Trans Canada Hwy    internet : nick@vlsi.polymtl.ca      *
*      St. Laurent, Quebec      hamradio : ve2hot@ve2fkb.pq.can.na    *
*      Canada H4S-1M5                                                  *
*****
*      Accept no substitutes, *REAL* ham radio lives on 220 MHz!      *
*****

```

Date: Thu, 19 May 1994 05:16:40 GMT
 From: lll-winken.llnl.gov!overload.lbl.gov!agate!howland.reston.ans.net!gatech!
 kd4nc!ke4zv!gary@ames.arpa
 Subject: Repeater linking, what radios?
 To: ham-homebrew@ucsd.edu

In article <Cq0MI2.5up@lambton.on.ca> david@lambton.on.ca (David Grant) writes:
 >

>We are are thinking of upgrading our 2m repeater to include some
 >remote recievers, linked back on 70cm and selected through a
 >Doug Hall Electronics voter.

>
 >What is the general wisom as to sources of link recievers/transmitters
 >what to use for remote (cross band) repeaters, expected ranges,
 >power level, etc?

Motorola and GE are always good choices. Micors and Exec IIs can be split with a VHF receiver and a UHF transmitter in one case. This makes a nice bulletproof remote. Or you can use purpose designed link equipment from Neulink or Grainger. The link should be at the lowest power that gives adequate fade margin. Beams are highly recommended. Use of microwave links instead of 70 cm is highly recommended since the link segment of 70 cm is filling beyond capacity in many areas. Grainger 900 MHz link transmitters and receivers are good, or you can go higher with equipment from Linkhurt, M/AComm, or Motorola.

>I think that a Kenwood 732 would make a cheap remote site, if it
 >was set to low power it could probably handle the duty cycle.
 >A small brick could boost the power.

Horrible choice. The intermod at a good high site will drive this radio crazy. It's transmitter is also dirty enough to generate complaints from other site users. About the only amateur grade equipment that's usable at a high site is the Icom 900/901 band modules, and they aren't really great.

>We still need recommendations on receivers that have fixed audio
>and COS outputs, and are rugged enough for this use. Synthesized (sp?)
>would be nice.

Synthesized would be bad. You want crystal controlled receivers with at minimum TCXOs, and preferably ovens. Stability is critical, and the cleaner LO spectrum of the crystal rigs will also help reject other crud on the site. Watkins Johnson made some great shelf mount single channel receivers for this purpose, but you could press Micor or Exec II receiver strips into service. If you use the split setup I suggested at the remote sites, you'll already have the UHF receivers left over from those. You can put two receiver strips in a single case. COR and fixed audio can be obtained from these receivers in exactly the same way you would if you were using them for ordinary repeater service. Probably 90% of ham repeaters use either the Micor or Exec II. There's a reason for that.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: 20 May 94 18:11:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: Reply to Allen Hall
To: ham-homebrew@ucsd.edu

(Allen Hall asked about qrp cw transmitters as a remedy to
boatanchors :)}

I've built the Ramsey 40 meter receiver and transmitter.
Although the transmitter works OK, the receiver is less
satisfactory. Recently I received an NN1G 40-40 QRP kit from the
New England QRP Club which I'm currently building. They have a
new round of these being prepared, so I'll give you the
announcement:

From: mvjfmvubr.att.com (James M Fitton +1 508 960 2577)
Date: 19 May 94 17:26:00 GMT
Subject: 40/40 kits

Second batch of 40/40 kits :

QRP-New England Club reports that 38 orders for the second batch of club 40/40 (40m and 30m) transceiver kits have been received.

All parts for the second batch have been ordered and kits should still be available in June.

To receive a file on kits and NE club, e-mail your request to mvjfmvubr.att.com.

You may also wish to get onto the mailing list for QRP that I got this information from. Send a message to :

Majordomo@Think.com

To subscribe to the daily message digest on QRP send this message:

subscribe qrp-digest

or you can

subscribe qrp to receive all the individual messages from the group.

72 & 73 de KD1DJ, Al (hicks.alan@epamail.epa.gov)

Date: 20 May 94 21:58:53 GMT
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!news.umbc.edu!eff!blanket.mitre.org!linus.mitre.org!newsflash.mitre.org!m14494-pc.mitre.org!mwhite@ucbvax.berkeley.edu
To: ham-homebrew@ucsd.edu

References <[2r8f28\\$ha2@vixen.cso.uiuc.edu](mailto:2r8f28$ha2@vixen.cso.uiuc.edu)>,
<1994May17.145749.20098@kocrsv01.delcoelect.com>,
<[2rc79k\\$f6a@newshost.lanl.gov](mailto:2rc79k$f6a@newshost.lanl.gov)>linus.m
Subject : Re: Man named Loomis invented radio?

>>Dr. Loomis was a dentist. If I remember correctly, he used a non-powered
>>system where he simply connected his "transmitting" antennae to ground via
>>a telegraph key. I assume that at all time a very small potential
>>difference existed between the antennae and ground, when the key opened and
>>closed, a small current flowed and excited the antennae at its resonant
>>frequency. I'm not sure what he used as a detector, but it did work.

Thanks; a very nice summary. The site where these experiments took place is near my home, in the Virginia mountains west of Washington, DC; there's a historical marker there. His "antennas" were very long vertical wires supported by kites. Loomis thought he was somehow tapping into a flow of aetheric energy moving through the sky. What he was really doing was electromagnetic induction, powered by the atmospheric potential difference between ground level and the top of his skywire some hundreds of feet up. A true pioneer, he was right for all the wrong reasons.

Mike White
mwhite@mitre.org
m14494@mwvm.mitre.org
703-883-7923 office
703-430-8402 home

My opinions are my own, not my employer's.

Date: 19 May 94 23:50:38 GMT
From: ihnp4.ucsd.edu!news.cerf.net!mvp.saic.com!MathWorks.Com!
europa.eng.gtefsd.com!gatech!swrinde!elroy.jpl.nasa.gov!lll-winken.llnl.gov!
noc.near.net!news.delphi.com!BIX.com!ddunfield@network
To: ham-homebrew@ucsd.edu

References <BILLW.94May18174710@glare.cisco.com>, <2rev9o\$g3o@vixen.cso.uiuc.edu>,
<2rg9rq\$i0t@handler.Eng.Sun.COM>s
Subject : Re: Philips "Dream Machine" 8XC750 design contest

>Someone else just posted the serial I/O routines for the 8031 and
>they were pretty small. (Dave Dunfield I believe).

I posted these in the new DS-750 mailing list. Here they are for
general consumption. They occupy 47 bytes of code space.

*


```

* "Bit-bang" serial I/O functions for the 8051.
*
* These routines transmit and receive serial data using two general
* I/O pins, in 8 bit, No parity, 1 stop bit format. They are useful
* for performing serial I/O on 8051 derivatives not having an
* internal UART, or for implementing a second serial channel.
*
* Dave Dunfield - May 17, 1994
*
* NOTE that R0 and R1 are used by the functions. You may wish to
* add PUSH/POP instructions to save/restore these registers.
TXD      set      P1.0          Transmit on this pin
RXD      set      P1.1          Receive on this pin
* The serial baud rate is determined by the processor crystal, and
* this constant which is calculated as: (((crystal/baud)/12) - 5) / 2
BITTIM EQU      45              (((11059200/9600)/12) - 5) / 2
*
* Transmit character in A via TXD line
*
putc      CLR      TXD          Drop line for start bit
          MOV      R0,#BITTIM   Wait full bit-time
          DJNZ     R0,*          For START bit
          MOV      R1,#8        Send 8 bits
putc1     RRC      A            Move next bit into carry
          MOV      TXD,C        Write next bit
          MOV      R0,#BITTIM   Wait full bit-time
          DJNZ     R0,*          For DATA bit
          DJNZ     R1,putc1     write 8 bits
          SETB     TXD          Set line high
          RRC      A            Restore ACC contents
          MOV      R0,#BITTIM   Wait full bit-time
          DJNZ     R0,*          For STOP bit
          RET
*
* Receive a character from the RXD line and return in A
*
getc      JB       RXD,*        Wait for start bit
          MOV      R0,#BITTIM/2 Wait 1/2 bit-time
          DJNZ     R0,*          To sample in middle
          JB       RXD,getc     Insure valid
          MOV      R1,#8        Read 8 bits
getc1     MOV      R0,#BITTIM   Wait full bit-time
          DJNZ     R0,*          For DATA bit
          MOV      C,RXD        Read bit
          RRC      A            Shift it into ACC
          DJNZ     R1,getc1     read 8 bits
          RET                  go home

```

Dave Dunfield (ddunfield@bix.com)

End of Ham-Homebrew Digest V94 #136
